JOINT INTEROPERABILITY & ENGINEERING ORGANIZATION

CENTER FOR SOFTWARE

Management Plan MP

28 February 1995

SOFTWARE USER MANUAL (SUM)

FOR THE

AIRFIELDS SYSTEM

Version 2.0.1
CM Number: LL-521-07-05

(D R A F T)

Revised 16 February 1996

SUBMITTED BY:	**APPROVED BY:**
JAMES MOODY **Chief, General Applications Division**	**SAMUEL PUCCIARELLI** **Chief, Software Development Department**

Copies of this document may be obtained from:

The Director CFSW
Attn: Code JEXAG
5600 Columbia Pike
Falls Church, VA 22041

ACKNOWLEDGEMENT

This document was prepared for the Defense Information Systems Agency (DISA), Joint Interoperability and Engineering Organization (JIEO), Center for Software (JEX), Software Development Department (JEXA), General Applications Division (JEXAG).

This Software User Manual addresses the re-engineered/re-hosted Airfields System. This version of the system is intended to demonstrate the practicality of using Ada 95 as a programming language in support of the conversion and re-engineering of the Worldwide Military Command and Control System (WWMCCS) applications to the Global Command and Control System (GCCS) environment.

Any questions, comments, or considerations relative to this User Manual should be directed to the following:

Global Command and Control System (GCCS) Hotline
DSN: 653-8681
Commercial: (703) 735-8681

CONTENTS

APPENDICES

FIGURES

SECTION 1. SCOPE

1.1 Identification . The Airfields system provides the Worldwide Military Command and Control System (WWMCCS) community with a wide range of data about free world airfields. All data is supplied by the Defense Mapping Agency Aerospace Center (DMAAC) and is updated monthly. The Airfields Retrieval system was re-engineered from COBOL to the Ada 95 language and provides the capability to print the One-Line, One-Page Summary, Multi-Page, Selective Data Retrieval, and Turnaround reports both on- and off-line.

1.2 System Overview . The functional proponent for Airfields is the Joint Staff Logistics Directorate (J4). The office of primary responsibility (OPR) is the Applications Engineering Facility. The designated development Agency (DDA) is the Center for Software (JEX), Software Development Department (JEXA), General Applications Division (JEXAG).

The Airfields System has been in existence for approximately twenty years. In the mid to late 1980's, the Defense Mapping Agency Aerospace Center (DMAAC) changed the database format which resulted in the need to do a total redesign of the WWMCCS version of the system from COBOL 68 to COBOL 74. During that period, the access method also changed from Honeywell Indexed Sequential Processing (ISP) files to a flat file format.

Historically, WWMCCS users access the system approximately 100 times per month. The database is owned by the Defense Mapping Agency Aerospace Center (DMAAC) and contains data on approximately 44,000 airfields and consists of over one million records.

The Ada 95 version of the Airfields runs under Sun Solaris 2.3 and a Relational Database Management System (RDBMS) is used for data manipulation. It is written in the Ada 95 programming language with a Graphical User Interface (GUI) utilized at the front end.

The system complies with GCCS Integration Standards and employs many standards such as the windowing capability and an extensive Help facility to aid the user with system operation. Primary operational sites include the Global Command and Control (GCCS) community and the Joint Staff.

1.3 Document Overview . The purpose of this Software User Manual (SUM) is to provide the hands-on software user with all the instructions needed to access and utilize the Airfields System.

2. **REFERENCED DOCUMENTS**

a. Department of Defense, Military Standard Software Development and Documentation, MIL-STD-498, 5 Dec 1994

b. Data Item Description (DID) number DI-IPSC-81443, Software User Manual (SUM), 5 Dec 1994

c. Joint Interoperability & Engineering Organization (JIEO), Washington, DC, Software Development Plan (SDP) (Draft), 20 January 1995

d. Joint Interoperability & Engineering Organization (JIEO), Washington, DC, Software Requirements Specification (SRS) (Draft), 20 January 1995

e. Joint Chiefs of Staff, Washington, DC, JCS Pub 1-03.16, Part II, Change 14, dated 1 June 1985

f. Defense Mapping Agency Aerospace Center, St. Louis, MO, Weight Bearing Capacity Evaluations, June 1995

g. Joint Chiefs of Staff, Washington, DC, JCS Pub 1-03.25 1 May 1989

3. **SOFTWARE SUMMARY**

3.1 Software Application . The Airfields system software provides the Joint Staff and the GCCS community in general with a wide range of data about worldwide airfields. The data, which is supplied by the Defense Mapping Agency Aerospace center (DMAAC), will be used as a crisis management tool in the event of national emergencies or world crises.

3.2 Software Inventory . The following are software files, database tables and/or files, etc. which must be present in order for the system to operate:

3.2.1 Application Files . Appendix A identifies package bodies and specifications used in the development of the system. Each package body and specification is followed by an explanation of what it does. The uppercase element name with the dot (.) extension represents the external file name while the name followed by "--" represents the internal package body or package specification name.

3.2.2. Database Tables . Appendix B contains a list of each table and the corresponding primary key(s) for that table. Appendix C represents the Airfields database tables and descriptions. The element type and size, the AAFIF identification number, and the element name are defined in this section. Airport table is the parent table to all U.S. airfields and Oconus_airport is the table which contains all the information on foreign airfields.

3.3 Software Environment . The Airfields has been installed on a Sun workstation in the GCCS Common Operating Environment (COE). It runs under Sun Solaris 2.3 and database manipulations are handled under the Oracle Standard Query Language (SQL). Sequel Loader, an Oracle utility, has been used to load the migrate tables. An Open Database Connectivity package is utilized to link the application with the database. Screen Machine, a Graphical User Interface (GUI), is the front end driver of the system. This tool is a Windows/Motif compliant GUI development tool which is compatible with the Ada 95 language and Ada 95 compilers.

Airfields resides on a SunSparc 1000 computer and requires approximately one gigabit of memory to run and execute. An on-line printer that prints up to 132 characters per line is required to print the reports produced by the system. Some printers may require 8.5 by 11 bond paper. Contact the GCCS System Administrator to determine the specifics required for the on-line printer being used. Other software that must be present includes the Sun Solaris 2.3 operating system, an Oracle Relational Database Management System (RDBMS), all applicable data files, the Airfields executable(s), all database tables, and the Sequel Loader utility to load the migrate tables.

3.4 Software Organization and Overview of Operation . The Airfields system operates in a Windows/MOTIF environment. A front end driver, Screen Machine (a Graphical User Interface (GUI)), allows the user to execute the system by pointing and clicking on the desired function. The report selected can either be displayed on the computer screen or a hard copy report may be obtained. The following paragraphs define the reports which are available in the system and the criteria needed for selection:

a. The system produces on-screen or hardcopy information for the following reports:

(1) One-Line Summary Report
(2) One-Page Summary Report
(3) Multi-Page Report
(4) Turnaround Calculation
(5) Selective Data Retrieval

b. Reports may be obtained by using the following retrieval criteria:

(1) Country Code
(2) Country Code and BE Number
(3) Country Code and ICAO/FAA Code
(4) Geolocation Code
(5) Country Code and Airfield Name
(6) Country Code and Coordinate/Radius

c. Criteria for Airfields selection includes, but are not limited to the following:

(1) Security Classification (up to Secret/NOFORN dissemination
(2) Airfield status (Military, Civilian, Joint, Active, Limited, Closed/Abandoned/Inactive, Heliport)
(3) Maximum or Minimum Load Classification Number
(4) Maximum or Minimum Runway length and width
(5) Runway Surface Type
(6) Maximum or Minimum Taxiway width

The database has been populated with DIA-validated country codes of the world and are arranged on the screen in alphabetical order. The user has the option of keying in a country code or scanning a list and selecting a code and name from the alphabetized list mentioned above. Up to twenty (20) country codes or names may be input for any given retrieval.

3.4.1 Contents of Reports . The user determines which airfields will be retrieved based upon input parameters provided by the system. Users are advised to use limiting criteria when

requesting large volumes of data since excessively large amounts of data may exhaust file space. The following is a description of each report capability within the system:

a. The One-Line Report produces a pre-formatted one line summary of information on airfields in a category specified by the user. This report can be sent to the screen or a hardcopy report may be printed. When all airfields in a country are requested, the number of report screens can be excessively large and cumbersome. The One-Line Report can be produced with a typical response time of less than one minute, however, the number of airfields requested in a given run and the number of users accessing the database at any given time may be factors that affect response/retrieval time.

b. The One-Page Summary Report produces a one page hardcopy report. The report may also be displayed to computer screen. The category is specified by the user. The One-Page Summary Report can be produced with a typical response time of less than a minute, however, the number of airfields requested in a given run and the number of users accessing the database at any given time may be factors that affect response time.

c. The Multi-Page Report produces a hardcopy report on each airfield selected. This report provides all the information in the database for each selected airfield. Because of the volume of data provided on each non-CONUS airfield, users are advised to limit the selection criteria for this report. CONUS airfields contain limited data and provide very limited reports. Response/retrieval time is largely dependent upon the criteria selected for the report. The amount of data requested and the number of users accessing the database at any given time may further affect response/retrieval time.

d. The Selective Data Retrieval provides information on those data items requested by the user. Users are cautioned that an excessive number of requested data items can produce a report that is excessively large and cumbersome. Users are therefore advised to limit the selection criteria for this report whenever possible. Response time is largely dependent upon the number of data items selected for the report. The amount of data requested and the number of users accessing the database at any given time are also factors may affect response time.

e. The Turnaround Calculation determines a theoretical turnaround of user-specified aircraft through an airfield based on the downtime required for that aircraft and the parking space available at the airfield. Specified ground times by aircraft type and an airfield's operating hours are

also factors to be considered. The Turnaround Calculation Report can be produced with a typical response time of less than a few minutes. The number of airfields requested in a given run and the number of users accessing the database at any given time may also be factors that affect response time.

3.5 Contingencies and Alternate Sites and Modes of Operation. In order to access the system, users must have access to the primary GCCS site. An alternate GCCS site has been established and may be utilized in the event of a national emergency. There are no other special user instructions that should be followed.

3.6 Security and Privacy. The database is classified Secret/No Foreign Dissemination (SNF). On-line reports from the retrieval system are marked with the highest classification of data actually reported. Continental U.S.A. (CONUS) data is unclassified. All other airfields can be classified up to SNF. Users are advised to control classified reports properly. Users of the system should possess the proper clearance(s) for logging onto and accessing the system and should have the need-to-know to access the data. The GCCS Security Officer can provide additional information on how to properly control and secure classified information.

3.7 Assistance and Problem Reporting. Access to the GCCS can be arranged by the GCCS designated point of contact or the GCCS System Administrator. Questions concerning access to the Airfields System, running the system, or questions with regard to the data should be directed to the DISA Operations Planning Division. Users with problems are requested to use a Deficiency Reporting (DR) form when reporting problems. When reporting problems via telephone, users are requested to provide the type information requested on the DR form to Airfields personnel. The following information represents the business address and phone number of the office of primary responsibility for the system:

DISA/JIEO
Center for Software
Software Development Department
Conventional Command and Control Division
5600 Columbia Pike, Room 201
Falls Church, Virginia 22041
Phone (Commercial): (703) 681-2599

4. ACCESS TO THE SOFTWARE

This section contains step-by-step procedures oriented to the first time or occasional user of the system. Safety precautions are marked by WARNING or CAUTION where applicable.

4.1 First-time user of the Software. The following paragraphs shall aid the first-time user of the software in getting started.

4.1.1 Equipment Familiarization . Access a Sun 1000 workstation running under Solaris 2.3 in the Global Command and Control's GCCS' Common Operating Environment (COE). Turn on the printer by pressing the toggle switch to the "ON" position. Turn the workstation on by pressing the "ON" button at the front of the CPU. Ensure your monitor has been turned to the "ON" position.

4.1.2 Access Control . Airfield users or potential users who have the need-to-know should obtain access privileges from the GCCS System Administrator. The highest classification of the data within the Airfields system is Secret NOFORN, therefore, users should possess at minimum a SECRET security clearance.

4.1.3 Installation and Setup . There are no requirements for the user to install or set up the system. Installation and setup has been accomplished prior to the user logging into the system, however, if problems are experienced upon logon, contact the GCCS System Administrator for assistance.

4.2 Initiating a Session . The following steps are required upon initiating the Airfields system:

a. Log onto the GCCS
b. Click on the Airfields ICON on the GCCS Main Panel
c. The Airfields Introductory Panel will display. Click on the “OK”. See Figure 5-1a.
d. The Airfields Main Panel will display. Click on one of the following functions or choose QUIT to exit to the GCCS Main Panel:

(1) FILE => To PRINT or EXIT
(2) REPORT => To access one of the report types described in Section 3.4.1 above. Clicking on Report automatically causes the One-Page Summary option to become active. See Figure 5-1b.
(3) HELP => To obtain system help for current cursor location.

Option	Input	Action
Exit Airfields	Click on QUIT	The Airfields Executive Program will terminate the terminal session. Control is returned to the GCCS Main Panel.
Exit File	FILE => EXIT	The Airfields session

		will terminate back to the Main Menu Panel. See Figure 5-2.
Print	FILE => PRINT	Allows a hardcopy printout of the most recently executed report. See Figure 5-2.
Report	REPORT => *Report Option*	Allows for the execution of any one of the five report types shown in Figure 5-3. The default is One-Page Summary which is shown at the top of the screen.
OK	Click on OK	Launches the current user request. See Figure 5-5.
CANCEL	Click on CANCEL	Cancels the user's current request and refreshes the screen. Clicking on CANCEL again from that screen will step the user back to the previous screen.
HELP	Click on HELP	Provides Help at the current cursor location. See Figure 5-5.
One-Line Summary	REPORT => ONE-LINE => *Retrieval Type*	A pull-down menu will display that will allow for the execution of a

Option	Input	Action
		One-line Report by one of the six retrieval types shown in Figure 5-4. Key in the country name(s) or code(s) you want to retrieve and click the LOCATE button or select a country(ies) from the list shown on the left of the screen. Click on the

		<ADD> button to add the country to the Selection List box shown on the right. Click on the <REMOVE> button to remove the selection(s) from the Selection List box. To retrieve by BE Number, Airfield Name, ICAO/FAA Code, or GEOLOC, key in the appropriate information and click on the <ADD> button to add the information to the Selection List or the <REMOVE> button to remove it from the Selection List box (See Figures 5-6 to 5-11). The report may be further limited by changing the defaults shown on the bottom half of the input screen. Figure 5-12 shows sample output of a One-Line Summary Report.
One-Page Summary Report	REPORT => One-Page Summary Report => *Retrieval Type*	A pull-down menu will display that will allow for the execution of a One-Page Summary Report by one of the six retrie-

Option	Input	Action
		val types shown in Figure 5-4. To continue, follow instructions as described above in the Action column of the One-Line Report. A sample One-Page Summary Report is shown in Figure 5-17.
Multi-Page Report	REPORT => Multi-Page Report => *Retrieval Type*	

		A pull-down menu will display that will allow for the execution of a Multi-Page Report by one of the retrieval types shown at Figure 5-4. To continue, follow instructions as described above in the Action column of the One-Line Report. A sample Multi-Page Report is shown in Figure 5-18.
Turnaround Report	REPORT => TURNAROUND CALCULATION => *Retrieval Type*	A pull-down menu will display that will allow for the execution of a Turnaround Calculation by one of the retrieval types at Figure 5-4. To continue, enter the aircraft simulation information needed to accomplish the simulation (see Figure 5-13a and 5-13b for pictorials of the criteria panels for this report). A sample report is shown in Figure 5-14.
Selective Data Retrieval	REPORT => SELECTIVE DATA => *Retrieval Type*	A pull-down menu will display that will allow for the execution of a Selective Data Retrieval by one of the six retrieval types shown in Figure 5-4. To continue, build the report by selecting from criteria panel shown in Figure 5-15. A sample report of the Selective Data Retrieval is shown in Figure 5-16.

4.3 Stopping and Suspending Work . Stopping and suspending a working session at the terminal shall be accomplished as follows:

a. From the Airfields Main Panel or from any screen, select FILE (see Figure 5-1).

b. If necessary, click on EXIT to close current process. Control is passed to the Airfields Main Panel.

c. Select QUIT to exit the Main Panel/Airfields. Control is returned to the GCCS Main Panel.

5. **PROCESSING REFERENCE GUIDE**

Figures 5-1 through 5-18 are samples of the screens and reports within the Airfields system. User and screen interactions have been described in Section 4.2 above.

5.1 Capabilities . This paragraph shall briefly describe the interrelationships of the transactions, menus, functions, or other processes in order to provide an overview of the use of the software.

5.2 Conventions . The following are conventions used in describing screen and user interaction.

- Uppercase lettering	Click functions
- The symbol "=>"	Precedes the next function to be executed.
- *Italicized* lettering	A generalized (not specific) function.

5.2.1 Screen Color Conventions . The following are color conventions used within the system:

Overall Screen Color	White on blue
LOCATE Button	White on red
OK Button	Black on white
ADD Button	Black on green
REMOVE Button	White on red
CANCEL Button	White on red
HELP Button	Black on yellow
Highlighted text	Reverse video/blue on white
Toggle ON Switch	Red [Square]
Function: Select one, all, or any combination	
Toggle OFF Switch	Blue [Square]
Toggle ON	Red [Diamond] (Multiple Choice)
	Grey on blue; inactive/User has no control
	White on Blue; active

5.2.2 Abbreviated Vocabulary . This paragraph describes the abbreviated vocabulary used on selection screen(s):

Min = Minimum (when used for lengths, widths, and Load class(es)), Minutes (when used to specify Latitude

and/or Longitude)

Ft = Foot/Feet

FIGURE 5-1a GOES HERE

FIGURE 5-1b GOES HERE

FIGURE 5-2 GOES HERE

FIGURE 5-3 GOES HERE

FIGURE 5-4 GOES HERE

FIGURE 5-5 GOES HERE

FIGURE 5-6 GOES HERE

FIGURE 5-7 GOES HERE

FIGURE 5-8 GOES HERE

FIGURE 5-9 GOES HERE

FIGURE 5-10 GOES HERE

FIGURE 5-11 GOES HERE

FIGURE 5-12 GOES HERE

FIGURE 5-13a GOES HERE

FIGURE 5-13b GOES HERE

FIGURE 5-14 GOES HERE

FIGURE 5-15 GOES HERE

FIGURE 5-16 GOES HERE

FIGURE 5-17 GOES HERE

FIGURE 5-18 GOES HERE

Max = Maximum

Deg = Degree(s)

Sec = Second(s)

5.3 Data Backup . If a problem with the Airfields data is encountered, contact the GCCS System Administrator or the Airfields office of primary responsibility as noted in Section 3.7 of this manual.

5.4 Recovery from Errors, Malfunctions, and Emergencies . Refer to the list of system errors and messages in Appendix D of this document. Should further assistance be required, contact the GCCS System Administrator or the Airfields office of primary responsibility as noted in Section 3.7 of this document.

5.5 Messages . Appendix D contains a list of all system related errors and informational messages and the action to be taken following receipt of such messages.

5.6 Quick-Reference Guide .

a. Log onto the GCCS
b. Click on the Airfields ICON
c. The Airfields Introductory Panel will display. Click on “OK”.
d. The Airfields Main Panel will display. Click on one of the following functions or choose QUIT to exit to the GCCS Main Panel:

(1) FILE => To PRINT or EXIT
(2) REPORT => To access one of the report types described in Section 3.4.1 above. Clicking on Report automatically causes the One-Page Summary option to become active. See Figure 5-1).

(3) HELP => To obtain system help for current cursor location.

e. Follow instructions in Sections 5.6.1 through 5.6.5 below to run the One-Line, One-Page Summary, Multi-Page, Turnaround Calculator, and Selective Data Reports.

f. Follow screen instructions for exiting the system.

5.6.1 Executing the One-Line Report . The following are step-by-step instructions for executing the One-Line Report.

a. Follow instructions in Section 4.2 (Initiating a Session) to Log onto the System.

b. Choose the *Report* function from the Report Type/Selection Criteria Panel(see Figure 5-4).

c. Select *One-Line* from the pull down menu generated by the request for "Report" issued in item b. above.

d. Select one of the retrieval methods as shown below:
   (1) Country code
   (2) Basic Encyclopedia Number
   (3) ICAO-FAA Code
   (4) GEOLOC
   (5) Airfield Name
   (6) Coordinate-Radius and CCs

e. When the Selection Criteria Panel for the option chosen is displayed, select from the list provided or key in the appropriate criteria for the retrieval (e.g., "Hawaii" may be selected if retrieving by Country or "Dillingham" could be selected if retrieving by Airfield Name).

f. Click on <ADD> to add the information selected at e. above to the Selection List Box on the right side of the screen (see Figure 5-7). Press the <REMOVE> button to remove the information just added to the Selection List Box.

g. Move to the lower portion of the screen and select a Security classification, airfield status, airfield criteria for runway, and airfield criteria for surface type or accept all defaults for these categories. Click the <OK> button. Clicking on <OK> launches the retrieval.

5.6.2 Executing the One-Page Summary Report . The following are step-by-step instructions for executing the One-Page Summary Report.

a. Follow instrutions in Section 4.2 (Initiating a Session) to Log onto the System.

b. Choose the *Report* function from the Report Type/Selection Criteria Panel(see Figure 5-4).

c. Select *One-Page Summary Report* from the pull down menu generated by the request for "Report" issued in item b. above.

d. Select one of the retrieval methods as shown below:
   (1) Country code
   (2) Basic Encyclopedia Number
   (3) ICAO-FAA Code
   (4) GEOLOC
   (5) Airfield Name
   (6) Cordinate-Radius and CCs

e. When the Selection Criteria Panel for the option chosen is displayed, select from the list provided or key in the appropriate criteria for the retrieval (e.g., "Hawaii" may be selected if retrieving by Country or "Dillingham" could be selected if retrieving by Airfield Name).

f. Press the <ADD> button to add the information selected at e. above to the Selection List Box on the right side of the screen (see Figure 5-7). Press the <REMOVE> button to remove the information just added to the Selection List Box.

g. Move to the lower portion of the screen and select a Security classification, airfield status, airfield criteria for runway, and airfield criteria for surface type or accept all defaults for these categories. Click the <OK> button. Clicking on <OK> launches the retrieval.

5.6.3 Executing the Multi-Page Report . The following are step-by-step instructions for executing the Multi-Page Report.

a. Follow instrutions in Section 4.2 (Initiating a Session) to Log onto the System.

b. Choose the *Report* function from the Report Type/Selection Criteria Panel(see Figure 5-4).

c. Select *Multi-Page Report* from the pull down menu generated by the request for "Report" issued in item b. above.

d. Select one of the retrieval methods as shown below:

(1) Country code
(2) Basic Encyclopedia Number
(3) ICAO-FAA Code
(4) GEOLOC
(5) Airfield Name
(6) Cordinate-Radius and CCs

e. When the Selection Criteria Panel for the option chosen is displayed, select from the list provided or key in the appropriate criteria for the retrieval (e.g., “Hawaii” may be selected if retrieving by Country or “Dillingham” could be selected if retrieving by Airfield Name).

f. Press the <ADD> button to add the information selected at e. above to the Selection List Box on the right side of the screen (see Figure 5-7). Press the <REMOVE> button to remove the information just added to the Selection List Box.

g. Move to the lower portion of the screen and select a Security classification, airfield status, airfield criteria for runway, and airfield criteria for surface type or accept all defaults for these categories. Click the <OK> button. Clicking on <OK> launches the retrieval.

5.6.4 Executing the Turnaround Calculation. The following are step-by-step instructions for executing the Turnaround Calculator.

a. Follow instrutions in Section 4.2 (Initiating a Session) to Log onto the System.

b. Choose the *Report* function from the Report Type/Selection Criteria Panel(see Figure 5-4).

c. Select *Turnaround Calculator* from the pull down menu generated by the request for “Report” issued in item b. above.

d. Select one of the retrieval methods as shown below:
(1) Country code
(2) Basic Encyclopedia Number
(3) ICAO-FAA Code
(4) GEOLOC
(5) Airfield Name
(6) Coordinate-Radius and CCs

e. When the Selection Criteria Panel for the option chosen is displayed, select from the list provided or key in the appropriate criteria for the retrieval .

f. Press the <ADD> button to add the information selected at e. above to the Selection List Box on the right side of the screen (see Figure 5-7). Press the <REMOVE> button to remove the information just added to the Selection List Box.

g. To select multiple country codes when retrieving by Coordinate-Radius, the following one of the following steps below may be executed:

(1) Type a country name (or partial name) into the country name field and click on the <LOCATE> button. A country code will automatically be placed into the Country Code Selection List Box found under the <ADD> and <REMOVE> buttons. This may be repeated as many times as desired or combined with steps (2) and (3) below to select up to five country codes.

(2) Type country code into the Country Code field to the right of the <LOCATE> button and press the <TAB> key (or click on another object on the screen). The code entered will be validated and moved to the “Country Code” Selection List Box under the <REMOVE> button. This step may be repeated as many times as desired or combined with the other steps to select up to five country codes.

(3) Scroll through the “Country Name” Selection List Box to find the desired country name/code combination. Click on the entry desired, and the country code will be copied to the “Country Code” Selection List Box under the <REMOVE> button. This step may be repeated as many times as desired or combined with the other steps to select us to five country codes.

h. When the desired coordinate-radius and country codes have been entered, click on the <ADD> button to add the combination to the “Country Code” Selection List Box.

i. Move to the lower portion of the screen and select a Security classification, airfield status, airfield

criteria for runway, and airfield criteria for surface type or accept all defaults for these categories. Click the <OK> button.

j. Pressing the <OK> button in I. above causes the screen shown in Figure 5-13a to display. From this screen, enter turnaround calculation values/Aircraft Codes (up to three may be entered). Press <ADD> to add the newly selected information to the Aircraft List Box. Press <REMOVE> to delete information just added to the Aircraft List Box.

k. Move to the lower portion of the screen shown in Figure 5-13a and enter aircraft simulation information.

(1) Aircraft square feet
(2) Ground time required (in hours)
(3) Minimum load class number or
Largest aircraft capacity
(4) Runway length required
(5) Taxiway width required

Clicking on the <LIST> button to the right of the Largest Aircraft Capacity field will display a list of Aircraft Capacity Codes (see Figure 5-13b).

l. When all the information has been entered (or selected), press <OK> to launch the retrieval.

5.6.5 Executing the Selective Data Retrieval . The following are step-by-step instructions for executing the Selective Data Retrieval.

a. Follow instructions in Section 4.2 (Initiating a Session) to Log onto the System.

b. Choose the *Report* function from the Report Type/Selection Criteria Panel(see Figure 5-4).

c. Select *Selective Data Retrieval* from the pull down menu generated by the request for “Report” issued in item b. above.

d. Select one of the retrieval methods as shown below:
(1) Country code
(2) Basic Encyclopedia Number
(3) ICAO-FAA Code
(4) GEOLOC

(5) Airfield Name
(6) Coordinate-Radius and CCs

e. When the Selection Criteria Panel for the option chosen is displayed, select from the list provided or key in the appropriate criteria for the retrieval (e.g., “Hawaii” may be selected if retrieving by Country or “Dillingham” could be selected if retrieving by Airfield Name).

f. Press the <ADD> button to add the information selected at e. above to the Selection List Box on the right side of the screen (see Figure 5-7). Press the <REMOVE> button to remove the information just added to the Selection List Box.

g. Move to the lower portion of the screen and select a Security classification, airfield status, airfield criteria for runway, and airfield criteria for surface type or accept all defaults for these categories. Click the <OK> button.

h. Clicking the <OK> button in g. above will cause the screen shown in Figure 5-15 to display. From this screen, select the items to be retrieved using the following strategy:

(1) To select one item from either category, click the mouse button on the item to be selected.

(2) To select more than one item from either category, hold down the <CONTROL> key and click the mouse button on the items to be selected.

(3) To select every item within a category, click on the first item on the list then hold down the <SHIFT> key and click on the last item on the list. The first, last, and every item in between will be highlighted or selected.

(4) To select every item on the screen, follow Step (3) above and move from one category to the next until all items in every category has been selected/highlighted.

i. Click the <OK> button to launch the retrie val.

6. **NOTES**

6.1 Terms and Abbreviations

AAFIF	Automated Air Facilities Information File
CFSW	Center for Software
COBOL	Common Business Oriented Language
COE	Common Operating Environment
DDA	Designated Development Agency
DIA	Defense Intelligence Agency
DID	Data Item Description
DISA	Defense Information Systems Agency
DMAAC	Defense Mapping Agency Aerospace Center
DoD	Department of Defense
DR	Deficiency Reporting
FAA	Federal Aviation Aeronautics
GCCS	Global Command and Control Systems
GUI	Graphical User Interface
JIEO	Joint Interoperability & Engineering Organization
NOFORN	No Foreign [dissemination]
OPR	Office of Primary Responsibility
RDBMS	Relational Database Management System
SDP	Software Development Plan
SNF	Secret/No Foreign [dissemination]
SRS	Software Requirements Specification
STD	Standard
SUM	Software Users Manual
WWMCCS	Worldwide Military Command and Control Systems

APPENDIX A

APPLICATION PACKAGE BODIES AND SPECIFICATIONS

about_panel_dialog_class-interact.adb -- A separate procedure in the About Panel Dialog Class package which displays the About Panel and provides the interface to the developers' code. The About Panel displays the name, version number and date, and credits of the Airfields Retrieval System. This is a Screen Machine artifact, modified to call other (developer) modules.

about_panel_dialog_class.adb -- Package body which defines procedures and functions to perform basic interaction with the About_Panel. The About Panel displays the name, version number and date, and credits of the Airfields Retrieval System. This is a Screen Machine artifact.

airfield_statuses.adb -- Package body which contains functions and procedures to convert the airfield status type into a string and back into a status type, and to convert an airfield status code (from the database) to a status type or to a string.

airfield_statuses.ads -- Package specification defining the airfield status type and the interface for the functions and procedures for type conversion.

airfields.adb - The main procedure for the Airfields Retrieval System. This procedure initializes the screens, displays the About Panel, then displays the Main Panel for the body of processing. When the Main Panel is closed, this procedure closes the screens and terminates processing.

airfields_object_factory_class-about_panel.adb -- This package body provides the initialization of the About Panel required by About_Panel_Dialog_Class. The specification for this package may be found in Airfields_Object_Factory_Class.ads. This is a Screen Machine artifact.

airfields_object_factory_class-cap_list_panel.adb -- This package body provides the initialization of the Cap List Panel required by Cap_List_Panel_Dialog_Class. The specification for this package may be found in Airfields_Object_Factory_Class.ads. This is a Screen Machine artifact.

airfields_object_factory_class-help_panel.adb -- This package body provides the initialization of the Help Panel required by Help_Panel_Dialog_Class. The specification for this package may be found in Airfields_Object_Factory_Class.ads.

This is a Screen Machine artifact.

airfields_object_factory_class-main_panel.adb -- This package body provides the initialization of the Main Panel required by Main_Panel_Dialog_Class. The specification for this package may be found in Airfields_Object_Factory_Class.ads. This is a Screen Machine artifact.

airfields_object_factory_class-selection_criteria_panel.adb -- This package body provides the initialization of the Selection Criteria Panel required by *selection_criteria_panel_dialog_class*. The specification for this package may be found in Airfields_Object_Factory_Class.ads. This is a Screen Machine artifact.

airfields_object_factory_class-selective_panel.adb -- This package body provides the initialization of the Selective Panel which is required by Selective_Panel_Dialog_Class. The specification for this package may be found in Airfields_Object_Factory_Class.ads. This is a Screen Machine artifact.

airfields_object_factory_class-turnaround_panel.adb -- This package body provides the initialization of the About Panel which is required by About_Panel_Dialog_Class. The specification for this package may be found in Airfields_Object_Factory_Class.ads. This is a Screen Machine artifact.

airfields_object_factory_class.adb -- This package body contains the functions that create and return the user interface panel data structures. This is a Screen Machine Artifact.

airfields_object_factory_class.ads -- This package specification contains the field name to field number mapping constant definitions and the functions that create and return the user interface panel data structures. This is a Screen Machine artifact.

cap_list_panel_dialog_class-interact.adb -- A separate procedure in the Cap List Panel Dialog Class package which displays the Cap List Panel and provides the interface to the developers' code. The Cap List Panel displays a list box with a selection of possible Aircraft Capacities for user selection. This is a Screen Machine artifact, modified by developer.

cap_list_panel_dialog_class.adb -- Package body which defines procedures and functions to perform basic interaction with the Cap_List_Panel. The Cap List Panel displays a list box with a selection of possible Aircraft Capacities for user selection. This is a Screen Machine artifact.

cap_list_panel_dialog_class.ads -- Package specification which defines procedures and functions to perform basic interaction with the Cap_List_Panel. The Cap List Panel displays a list box with a selection of possible Aircraft Capacities for user

selection. This is a Screen Machine artifact.

center_string.adb -- a function which positions a string at the center of the printed line.

check_file.adb --

check_for_digit.adb -- This procedure reads in a string and checks to see if the first character is a number. If the condition is true (i.e., it is a number), it concatenates the string and puts a single quote at the beginning and end of that string. If the condition is false, then the orginial string is passed back.

debug.adb -- This package body is part of a GNAT debug package/tool used to turn debug on or off in a program.

debug.ads -- This package specification is part of a GNAT debug package/tool used to turn debug on or off in a program.

debug_pkg.adb -- A Package body holding the procedures to detect the state of the debug flag which allows the output of text_io statements to the screen if the flag is set on.

debug_pkg.ads -- A package specification defining the debug flag and providing the declarations of the functions and procedures needed to put debugging statements to the screen.

dm_airport-bind_all.adb -- This package body is a separate procedure which binds the SQL record with ODBC. It is being called by the dm_airport data manager to create SQL and ODBC binding.

dm_airport-convert_to_datavalue.adb --This package body is a separate function called by the fuel_dispensing data manager to assign the retrieved values from the database to the return variables.

dm_airport-create_sql_statement.adb -- This package body is a separate package function to create an SQL statement for the dm_airport data manager based on the user supplied key.

dm_airport-dm_acft_bunkers-bind_acft_bunkers.adb --This package body is a separate procedure which binds the SQL record with ODBC. It is being called by the acft_bunkers data manager to create SQL and ODBC binding.

dm_airport-dm_acft_bunkers-convert_to_acft_bunkers_data.adb -- This package body is a separate function called by the acft_bunkers data manager to assign the retrieved values from the database to the return variables.

dm_airport-dm_acft_bunkers-create_acft_bunkers_sql_statement.adb -- This package body is a separate package function to create an SQL statement for the acft_bunkers data manager based on the user supplied key.

dm_airport-dm_acft_bunkers.adb -- This package body provides an SQL search of the Airfields database based on user request.

dm_airport-dm_acft_bunkers.ads -- This package specification controls the access to the primary runway record.

dm_airport-dm_apron-bind_fuel_storage.adb -- This package body is a separate procedure which binds the SQL record with ODBC. This procedure is being called by the apron data manager to create SQL and ODBC binding.

dm_airport-dm_apron-convert_to_apron_data.adb -- This package body is a separate function called by the dm_apron data manager to assign the retrieved values from the database to the return variables.

dm_airport-dm_apron-create_apron_sql_statement.adb -- This package body is a separate package function to create an SQL statement for the apron data manager based on the user supplied key.

dm_airport-dm_apron.adb -- This package body provides an SQL search of the Airfields database based on user request.

dm_airport-dm_apron.ads -- This package specification controls the access to the *primary runway record.*

dm_airport-dm_arrest_sys-bind_arrest_sys.adb --This package body is a separate procedure which binds the SQL record with ODBC. This procedure is being called by the dm_arrest_sys data manager to create SQL and ODBC binding.

dm_airport-dm_arrest_sys-convert_to_arrest_sys_data.adb --This package body is a separate function called by the dm_arrest_sys data manager to assign the retrieved values from the database to the return variables.

dm_airport-dm_arrest_sys-create_arrest_sys_sql_statement.adb -- This package body is a separate package function to create an SQL statement for the dm_arrest_sys data manager based on the user supplied key.

dm_airport-dm_arrest_sys.adb -- This package body provides an SQL search of the Airfields database based on user request.

dm_airport-dm_arrest_sys.ads -- This package specification controls the access to the primary runway record.

dm_airport-dm_country_cd.adb -- This package body provides an SQL search of the Airfields database based on user request.

dm_airport-dm_country_cd.ads -- This package specification controls the access to the primary runway record.

dm_airport-dm_defueling.adb -- This package body provides an SQL search of the Airfields database based on user request.

dm_airport-dm_defueling.ads -- This package specification controls the access to the primary runway record.

dm_airport-dm_fuel_dispensing-bind_fuel_dispensing.adb -- This package body is a separate procedure which binds the SQL record with ODBC. It is being called by the fuel dispensing data manager to create SQL and ODBC binding.

dm_airport-dm_fuel_dispensing-convert_to_fuel_dispensing_data.adb -- This package body is a separate function called by the fuel_dispensing data manager to assign the retrieved values from the database to the return variables.

dm_airport-dm_fuel_dispensing-create_fuel_dispensing_sql_statement.adb -- This package body is a separate package function to create an SQL statement for the fuel_dispensing data manager based on the user supplied key.

dm_airport-dm_fuel_dispensing.adb -- This package body provides an SQL search of the Airfields database based on user request.

dm_airport-dm_fuel_dispensing.ads -- This package specification controls the access to the primary runway record.

dm_airport-dm_fuel_stock-bind_fuel_stock.adb -- This package body is a separate procedure which binds the SQL record with ODBC. It is being called by the fuel_stock data manager to create SQL and ODBC binding.

dm_airport-dm_fuel_stock-convert_to_fuel_stock_data.adb -- This package body is a separate function called by the fuel_stock data manager to assign the retrieved values from the database to the return variables.

dm_airport-dm_fuel_stock-create_fuel_stock_sql_statement.adb -- This package body is a separate package function to create an SQL statement for the fuel_stock data manager based on the user supplied key.

dm_airport-dm_fuel_stock.adb -- This package body provides an SQL search of the Airfields database based on user request.

dm_airport-dm_fuel_stock.ads -- This package specification controls the access to the primary runway record.

dm_airport-dm_fuel_storage-bind_fuel_storage.adb -- This package body is a separate procedure which binds the SQL record with ODBC. This procedure is being called by the fuel_storage data manager to create SQL and ODBC binding.

dm_airport-dm_fuel_storage-convert_to_fuel_storage_data.adb -- This package body is a separate function called by the fuel_storage data manager to assign the retrieved values from the database to the return variables.

dm_airport-dm_fuel_storage-create_fuel_storage_sql_statement.adb -- This package body is a separate package function to create an SQL statement for the fuel_storage data manager based on the user supplied key.

dm_airport-dm_fuel_storage.adb -- This package body provides an SQL search of the Airfields database based on user request.

dm_airport-dm_fuel_storage.ads -- This package specification controls the access to the primary runway record.

dm_airport-dm_hangars-bind_hangars.adb -- This package body is a separate procedure which binds the SQL record with ODBC. This procedure is being called by the hangars data manager to create SQL and ODBC binding.

dm_airport-dm_hangars-convert_to_hangars_data.adb -- This package body is a separate function called by the hangars data manager to assign the retrieved values from the database to the return variables.

dm_airport-dm_hangars-create_hangars_sql_statement.adb -- This package body is a separate package function to create an SQL statement for the hangars data manager based on the user supplied key.

dm_airport-dm_hangars.adb -- This package body provides an SQL search of the Airfields database based on user request.

dm_airport-dm_hangars.ads -- This package specification controls the access to the primary runway record.

dm_airport-dm_hardstand-bind_dm_hardstand.adb -- This package body is a separate procedure which binds the SQL record with ODBC. This procedure is being

called by the hardstand data manager to create SQL and ODBC bindings.

dm_airport-dm_hardstand-convert_to_hardstand_data.adb -- This package body is a separate function called by the hardstand data manager to assign the retrieved values from the database to the return variables.

dm_airport-dm_hardstand-create_hardstand_sql_statement.adb -- This package body is a separate function to create an SQL statement for the hardstand data manager based on the user supplied key.

dm_airport-dm_hardstand.adb -- This package body retrieves the Hardstand records by calling the CREATE, BIND, and CONVERT packages. It is a child package to the DM_Airport package and interfaces with Open Database Connectivity (ODBC) to allow applications to access data in the database management system (DBMS) using Structured Query Language (SQL).

dm_airport-dm_hardstand.ads -- This package specification declares the database record layout to retrieve the Hardstand records. It also defines the interface to other programs.

dm_airport-dm_obf_storage-bind_obf_storage.adb -- This package body is a separate procedure which binds the SQL record with ODBC. This procedure is being called by every data manager to create SQL and ODBC binding.

dm_airport-dm_obf_storage-convert_to_obf_storage_data.adb -- This package body is a separate function called by every data manager to assign the retrieved values from database to the return variables.

dm_airport-dm_obf_storage-create_obf_storage_sql_statement.adb -- This package body is a separate function called by Data Managers to create an SQL statement for a particular data manager based on the given key.

dm_airport-dm_obf_storage.adb -- This package body retrieves the Obf_Storage records by calling three separate packages (CREATE, BIND and CONVERT). It is a child package to the DM_Airport package and interfaces with Open Database Connectivity (ODBC) to allow applications to access data in the database management system (DBMS) using Structured Query Language (SQL).

dm_airport-dm_obf_storage.ads -- This package specification declares the database record layout to retrieve the Obf_Storage records. It also defines the interface to other programs.

dm_airport-dm_oconus_airport-bind_oconus_airport.adb -- It is a separate procedure which binds the SQL record with ODBC. This procedure is being called by every data

manager to create SQL and ODBC binding.

dm_airport-dm_oconus_airport-convert_to_oconus_airport_data.adb -- This package body is a separate function called by every data manager to assign the retrieved values from the database to the returned variables.

dm_airport-dm_oconus_airport-create_oconus_airport_sql_statement.adb -- This package body is a separate function called by Data Managers to create an SQL statement for a particular data manager based on the given key.

dm_airport-dm_oconus_airport.adb -- This package body retrieves the Oconus_Airport records by calling three separate packages (CREATE, BIND and CONVERT) and is a child package to the DM_Airport package. It also interfaces with Open Database Connectivity (ODBC) to allow applications to access data in the database management system (DBMS) using Structured Query Language (SQL).

dm_airport-dm_oconus_airport.ads -- This package specification declares the database record layout to retrieve the Oconus_Airport records. It also defines the interface to other programs.

dm_airport-dm_oconus_runway-bind_oconus_runway.adb -- This package body is a separate procedure which binds the SQL record with ODBC. This procedure is being called by every data manager to create SQL and ODBC binding.

dm_airport-dm_oconus_runway-convert_to_oconus_runway_data.adb -- This package body is a separate function called by every data manager to assign the retrieved values from database to the return variables.

dm_airport-dm_oconus_runway-create_oconus_runway_sql_statement.adb -- This package body is a separate function called by Data Managers to create a SQL statement for a particular data manager based on the given key.

dm_airport-dm_oconus_runway.adb -- This package body retrieves the Oconus_Runway records by calling three separate packages (CREATE, BIND and CONVERT) and is a child package to the DM_Airport package. It also interfaces with Open Database Connectivity (ODBC) to allow applications to access data in the database management system (DBMS) using Structured Query Language (SQL).

dm_airport-dm_oconus_runway.ads -- This package specification declares the database record layout to retrieve the oconus_runway records. It also defines the interface to other programs.

dm_airport-dm_oconus_taxiway.adb -- This package body retrieves the Oconus_Taxiway records by calling three separate packages (CREATE, BIND and

CONVERT) and is a child package to the DM_Airport package. It also interfaces with Open Database Connectivity (ODBC) to allow applications to access data in the database management system (DBMS) using Structured Query Language (SQL).

dm_airport-dm_oconus_taxiway.ads -- This package specification declares the database record layout to retrieve the Oconus_Taxiway records. It also defines the interface to other programs.

dm_airport-dm_refueling-bind_dm_refueling.adb -- This package body is a separate procedure which binds the SQL record with ODBC. This procedure is being called by every data manager to create SQL and ODBC binding.

dm_airport-dm_refueling-convert_to_refueling_data.adb -- This package body is a separate function called by every data manager to assign the retrieved values from the database to the returned variables.

dm_airport-dm_refueling-create_refueling_sql_statement.adb - - This package body is a separate function called by Data Managers to create a SQL statement for a particular data manager based on the given key.

dm_airport-dm_refueling.adb --This package body retrieves the Refueling records by calling three Separate packages (CREATE, BIND and CONVERT) and is a child package to the DM_Airport package. It also interfaces with Open Database Connectivity (ODBC) to allow applications to access data in the database management system (DBMS) using Structured Query Language (SQL).

*dm_airport-dm_refueling.ad*s -- This package specification controls access to the primary runway record.

dm_airport-dm_revetments-create_revetments_sql_statement.adb -- This package body is a separate package function to create an SQL statement for the Revetments data manager based on the user supplied key.

dm_airport-dm_revetments.adb -- This package body provides an SQL search of the Airfields database based on user request.

dm_airport-dm_revetments.ads -- This package specification controls the access to the primary runway record.

dm_airport-dm_runway-bind_runway.adb -- This package body is a separate procedure which binds the SQL record with ODBC. It is being called by the runway data manager to create SQL and ODBC binding.

dm_airport-dm_runway-convert_to_runway_data.adb -- This package body is a

separate function called by the runway data manager to assign the retrieved values from the database to the return variables.

dm_airport-dm_runway-create_runway_sql_statement.adb -- This package body is a separate package function to create an SQL statement for the Runway data manager based on the user supplied key.

dm_airport-dm_runway.adb -- This package body provides an SQL search of the Airfields database based on user request.

dm_airport-dm_runway.ads -- This package specification controls the access to the primary runway record.

dm_airport-dm_shed-bind_shed.adb -- This package body is a separate procedure which binds the SQL record with ODBC. This procedure is being called by the shed data manager to create SQL and ODBC binding.

dm_airport-dm_shed-convert_to_shed_data.adb -- This package body is a separate function called by the shed data manager to assign the retrieved values from the database to the return variables.

dm_airport-dm_shed-create_shed_sql_statement.adb -- This package body is a separate package function to create an SQL statement for the Runway data manager based on the user supplied key.

dm_airport-dm_shed.adb -- This package body provides an SQL search of the Airfields database based on user request.

dm_airport-dm_shed.ads -- This package specification controls the access to the primary runway record.

dm_airport-dm_taxiway.adb -- This package body provides an SQL search of the Airfields database based on user request.

dm_airport-dm_taxiway.ads -- This package specification controls the access to the primary runway record.

dm_airport-dm_warehouse-bind_dm_warehouse.adb -- This package body is a separate procedure which binds the SQL record with ODBC. This procedure is being called by the warehouse data manager to create SQL and ODBC bindings.

dm_airport-dm_warehouse-convert_to_warehouse_data.adb -- This package body is a separate function called by the warehouse data manager to assign the retrieved values from the database to the return variables.

dm_airport-dm_warehouse-create_warehouse_sql_statement.adb -- This package body is a separate function to create an SQL statement for the warehouse data manager based on the user supplied key.

dm_airport-dm_warehouse.adb -- This package body provides an SQL search of the Airfields database based on user request.

dm_airport-dm_warehouse.ads -- This package specification controls the access to the primary runway record.

dm_airport-dm_weather.adb -- This package body provides an SQL search of the Airfields database based on user request.

dm_airport-get_security_information.adb -- This package body provides an SQL search of the Airfields database based on user request.

dm_airport-split_be.adb -- This package body provides an SQL search of the Airfields database based on user request.

dm_turnaround.adb -- This package body contains the procedures to clear the report and convert it to a string.

dm_trunaround.ads -- This package builds the type of report selected by the user according to selection criteria. Once a report is created, the report will be displayed on screen and the user will be able to print it.

full_spelling.ads -- This package contains an array that translate codes into full English spelling. The translation is passed back as a string to the calling program.

get_trurnaround_screen_support_info.adb -- This package gets user input from turnaround screen and returns the user selection.

help_panel_dialog_class-interact.adb -- A separate procedure in the Help Panel Dialog Class package which displays the Help Panel and provides the interface to the developer's code. The Help Panel displays the the text box with users manual. This is a Screen Machine artifact, modifed to call other (developer) modules.

help_Panel_dialog_class.adb -- A Package body which defines procedure and functions to perform basic interaction with the Help_Panel. The Help Panel displays a text box with users manual. This is a screen Machine artifact.

help_panel_dialog_class.ads -- Package specification which defines procedures and function to perform basic interaction with the Help_Panel. The Help_Panel displays a text box with users manual.

inset_zeros.adb -- Package body which accomdates for the blank space at the beginning of the variable 'The_Number', which was a number passed in as a string with the help of the integer image function provided in Ada.

main_panel_dialog_class-background.adb -- Package body which defines procedures and function to perform basic interaction with the Main_Panel. This is not a Screen Machine artifact.

main_panel_dialog_class.background.ads -- Package specification which defines procedures and function to perform basic interation with the Main_Panel. This is not a Screen Machine artifact.

main_panel_dialog_class-interact.adb -- A separate procedure in the Main_Panel_Dialog Class Package which displays the Main Panel and provides the interface to the developer's code. The Main Panel displays the main panel. This is a Screen Machine artifact.

main_panel_dialog_class.adb -- Package body which defines procedures and founction to perform basic interaction to the Main_Panel. The Main Panel displays the main panel. This is a Screen Machine artifact.

main_panel_dialog_class.ads -- Package specification which defines procedures and function to perform basic interaction with the Main_Panel. This is a Screen Machine artifact.

make_be.adb -- A function which gets the world area code and installation number id and makes the BE number.

multi_page_report-clear.adb -- A separate procedure which clears the Multi-Page screen report.

multi_page_report-to_string.adb -- A function which formats headers for the Multi-Page report.

multi_page_report.adb -- This package body builds the Multi-Page Report and the selective data retrieval report from the selection criteria retrieved from the user.

multi_page_report.ads -- This package specification sets up the subroutines for building the Multi-Page Report and the selective data retrieval report.
odbc-ext.adb -- This package body contains the pragma imports to the drivers.

odbc-ext.ads -- This package specification contains the pragma imports to the drivers.

odbc.ads -- This package specification contains the functions for accessing ODBC.

odbc_utilities.adb -- Package specification containing the utilities for ODBC calls.

odbc_utilities.ads -- Package specification containing the utilities for ODBC calls.

one_line_report-with_coord_radius.adb -- Package body for building the one line report with a coordinate/radius as input.

one_line_report-with_coord_radius.ads -- Package specification for building the one line report with a coordinate/radius as input.

one_page_report.ads -- Package specification for building the one page report.

one_page_report.adb -- Package body for building the one page report.

print_string.adb -- Package body used for debugging. Helps detect unprintable characters.

report_printer.adb -- Package body for printing report from screen to printer.

report_printer.ads -- Package specification for printing report from screen to printer.

screen_machine_housekeeper_package.adb -- Package body that manages all screen machine functions.

screen_machine_housekeeper_package.ads -- Package specification that manages all screen machine functions.

selection_criteria.adb -- Package body that sets up the selection criteria screen and gets user input from the screen.

selection_criteria.ads -- Package specification that sets up the selection criteria screen and gets user input from the screen.

selection_criteria_airfield_name.adb -- Package body that sets up the display for fields on the selection criteria screen for Airfield names.

selection_criteria_airfield_name.ads -- Package specification that sets up the display for fields on the selection criteria screen for basic encyclopedia numbers.

selection_criteria_basic_encyclopedia.adb -- Package body that sets up the display for fields on the selection criteria screen for basic encyclopedia numbers.

selection_criteria_basic_encyclopedia. ads -- Package specification that sets up the display for fields on the selection criteria screen for Airfield names.

selection_criteria_coordinate_radius-arccos_check.adb -- This separate function returns the ARCCOS function in degrees, but first checks that the argument is not slightly out of range due to round_off error.

selection_criteria_coordinate_radius-calculate_distance_between_in_degrees.adb -- This separate function will calculate the distance in degrees between two points on the globe.

selection_criteria_coordinate_radius-convert_back_to_latitude_type.adb -- This separate function converts from distance_Type to latitude_type.

selection_criteria_coordinate_radius-convert_back_to_longitude_type.adb -- This separate function converts the distance_type to longitude_type.

selection_criteria_coordinate_radius-convert_distance_to_degrees.adb -- This separate function converts the distance from distance_type to degree_type.

selection_criteria_coordinate_radius-convert_lat_to_distance_type.adb -- This separate function will convert latitude to a distance_type.

selection_criteria_coordinate_radius-convert_lat_to_float_type.adb -- This separate function converts the latitude to a float_type.

selection_criteria_coordinate_radius-convert_lon_to_distance_type.adb

selection_criteria_coordinate_radius-convert_lon_to_float_type.adb

selection_criteria_coordinate_radius-determine_distance.adb -- This separate function will calculate the distance in nautical miles between two points on the globe.

selection_criteria_coordinate_radius-determine_lat_longs.adb -- This separate function takes the coordinate point and distance from the point and provide the coordinates repersenting a square around the coordinate which includes more than all coordinates that fall within the distance provided. When coordinate point and distance encompass one of the poles, then minimum and maximum longitude will be repersented by 00E and 00W.

selection_criteria_coordinate_radius-new_geographic_location.adb -- This separate function is taken from Granite Sentry phase II program. NTD A_Tactical_Decision_Aid_Pkg dated 1 November, 1989. This function will provide new location based on given point, course and distance to travel.

selection_criteria_coordinate_radius.adb -- This package body sets up the display for the fields on the selection criteria screen and gets all user input and validates it.

selection_criteria_coordinate_radius.ads -- This package specification controls the access to the coordinate_radius record.

selection_criteria_country_code.adb -- This package specification sets up the display for fields on the selection criteria screen for Country_Codes and receives and validates user input.

selection_criteria_country_code.ads -- This package specification controls the access to the country_code record.

selection_criteria_geoloc.adb -- This package body sets up the display for fields on the selection criteria screen for geolocs and receives and validates the Geoloc input/selected by the user.

selection_criteria_geoloc.ads -- This package body sets up the display for fields on the selection criteria screen for geolocs and receives and validates the Geoloc input/selected by the user.

selection_criteria_icao.adb -- This package body sets up the display for fields on the selection criteria screen for ICAO codes.

*selection_criteria*_icao.ads -- This package specification sets up the display for fields on the selection criteria screen for ICAO codes.

selection_criteria_panel_dialog_class-extras-background.adb -- This package body implements the background processing for the 'Selection_Criteria_Panel' panel.

selection_criteria_panel_dialog_class-extras-background.ads -- This package specification implements the background processing for the 'Selection_Criteria_Panel' panel.

selection_criteria_panel_dialog_class-extras.adb -- This package body adds extra procedures to the selection criteria panel dialog class. These procedures are needed to provide behind-the-scenes processing for the panel.

selection_criteria_panel_dialog_class-extras.ads --This package specification adds extra procedures to the selection criteria panel dialog class. These procedures are needed to provide behind-the-scenes processing for the panel.

selection_criteria_panel_dialog_class-interact.adb -- Screen Machine generated body for interacting with the user via the “Selection_Criteria_Panel” panel.

selection_criteria_panel_dialog_class.adb -- Screen Machine generated specification for interacting with the user via the “Selection_Criteria_Panel” panel.

selection_criteria_panel_dialog_class.ads -- Screen Machine generated specification for interacting with the user via the “Selection_Criteria_Panel” panel.

selective_panel_dialog_class-interact.adb -- Package body that implements the interactive dialog logic for the “Selective Panel” panel.

selective_panel_dialog_class-process_list_choices.adb -- Package body that sets up the display for the Selective Data Retrieval report.

selective_panel_dialog_class-reset_lists.adb -- Package body that resets the display for the Selective Data Retrieval report.

selective_panel_dialog_class.adb -- Package body generated by Screen Machine that establishes the dialog class for interacting with the user via the “Selective Data_Panel” panel.

selective_panel_dialog_class.ads -- Package specification generated by Screen Machine that establishes the dialog class for interacting with the user via the “Selective_Data_Panel” panel.

storage_manager_sequential.adb -- Package body used for managing storage.

storage_manager_sequential.ads -- Package specification used for managing storage.

string_sequential_unbounded_managed_iterator.adb -- Generic package body used for string manipulation.

string_sequential_unbounded_managed_iterator.ads -- Generic package specification used for string manipulation.

turnaround_panel_dialog_class-interact.adb -- Package body generated by Screen Machine that sets up the dialog logic for the “Turnaround_Panel” panel.

turnaround_panel_dialog_class.adb -- Package body generated by Screen Machine that establishes the dialog class for interacting with the user via the “Turnaround_Panel” panel.

turnaround_panel_dialog_class.ads -- Package specification generated by Screen Machine that establishes the dialog class for interacting with the user via the “Turnaround_Panel” panel.

turnaround_report.adb -- Package body that builds the turnaround report.

turnaround_report.ads -- Package specification that builds the turnaround report.

turnaround_screen_support-simulation_support-aircraft_capacity.adb -- Package body that gets the largest aircraft capacity from the user for calculating the turnaround time.

turnaround_screen_support-simulation_support-aircraft_capacity.ads -- Package specification that gets the largest aircraft capacity from the user for calculating the turnaround time.

turnaround_screen_support-simulation_support-load_class.adb -- Package body that gets the minimum load class number from the user for calculating the turnaround time.

turnaround_screen_support-simulation_support-load_class.ads -- Package specification that gets the minimum load class number from the user for calculating the turnaround time.

turnaround_screen_support-simulation_support.adb -- Package body that gets the the square feet, ground time, min runway length , and min taxiway width from the user for calculating the turnaround time.

turnaround_screen_support-simulation_support.ads -- Package specification that gets the the square feet, ground time, min runway length , and min taxiway width from the user for calculating the turnaround time.

turnaround_screen_support.ads -- Package specification that sets up the display for user input. Input used to produce the turnaround report.

turnaround_screen_support.adb -- Package body that sets up the display for user input. Input used to produce the turnaround report.

APPENDIX B

DATABASE PRIMARY KEYS

```
TABLE AIRPORT
 (PRIMARY KEY  WRLD_AREA_CD, INS_NUM_ID)

TABLE OCONUS_AIRPORT
   (PRIMARY KEY  WRLD_AREA_CD, INS_NUM_ID)

TABLE AFCT_BUNKER
   (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)

TABLE APRON
   (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)

CREATE TABLE AP_SCTY_CLSN
 (PRIMARY KEY (AAFIF_CD, WRLD_AREA_CD, INS_NUM_ID)

TABLE ARREST_SYS
  (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)

TABLE COUNTRY
   PRIMARY KEY (CY_CD)

TABLE DEFUELING
   (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)

TABLE FUEL_DISPENSING
  (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)

TABLE FUEL_STOCK
 (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)

TABLE FUEL_STORAGE
 (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)

TABLE HANGARS
 (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)

TABLE HARDSTAND
 (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)

 TABLE MIGRATE
  (PRIMARY KEY (SEQUENCE_ID)

TABLE OBF_STORAGE
   (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)
```

```
TABLE OCONUS_RUNWAY
  (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)

TABLE OCONUS_TAXIWAY
   (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)

TABLE REFUELING
  (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)

TABLE REVETMENTS
  (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)

 TABLE RUNWAY
   (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)

TABLE SHED
   (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)

TABLE TAXIWAY
   (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)

TABLE WAREHOUSE
    (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)

TABLE WEATHER
    (PRIMARY KEY (OCCURRENCE, WRLD_AREA_CD, INS_NUM_ID)
```

APPENDIX D

SYSTEM ERROR/INFORMATIONAL MESSAGES

1. ERROR IN FILE MENU SELECTION - CONTRACT PROGRAMMERS.

   Corrective Action: See Section 3.7 of this manual for contact information.

2. ERROR IN REPORT MENU SELECTION - CONTACT PROGRAMMERS
   Occurs when a user has selected a report that the system does not recognize.

   Corrective Action: See Section 3.7 for contact information.

3. ERROR IN MAIN MENU SELECTION - CONTACT PROGRAMMERS
   This message is spawned when an error in the Main Menu function has occurred.

   Corrective Action: See Section 3.7 for contact information.

4. ENTER A COUNTRY NAME TO LOCATE
   Occurs to when the user has clicked on the LOCATE button without having entered a country name as search criteria.

   Corrective Action: Enter a country name prior to selecting LOCATE.

5. COUNTRY MATCH NOT FOUND
   Occurs when a search is made for user-entered country name and the system was unable to locate the named country.

   Corrective Action: Check the spelling of the country entered and resubmit the request.

6. PLEASE ENTER A COUNTRY CODE OR SELECT FROM THE LIST
   Occurs when the user has elected to retrieve a report by country code.

   Corrective Action: This message is for informational purposes only. Enter the country code desired or select one from the list supplied by the system.

7. COUNTRY CODE DOES NOT EXIST
   Occurs when the user has entered an invalid country code for country code search criteria.

Corrective Action: Check the spelling of the country code entered or select one from the list of codes supplied by the system.

8. BASIC ENCYCLOPEDIA NUMBER DOES NOT EXIST
Occurs when the user has entered an invalid BE number as search criteria.

Corrective Action: Check the Basic Encyclopedia number entered and resubmit the request.

9. ICAO NUMBER DOES NOT EXIST
Occurs when the user has entered an invalid ICAO code as search criteria.

Corrective Action: Check the ICAO code entered and resubmit the request.

10. GEOLOC DOES NOT EXIST
Occurs when the user has entered an invalid GEOLOC as search criteria.

Corrective Action: Check the GEOLOC code entered and resubmit the request.

11. AIRFIELD NAME DOES NOT EXIST
Occurs when the user has entered an invalid Airfield name as search criteria.

Corrective Action: Check the spelling of the Airfield Name entered and resubmit the request.

12. NO MORE THAN 20 SELECTION CRITERIA MAY BE ENTERED
Occurs when the user has entered more than the maximum of twenty items for search criteria.

Corrective Action: Limit the selection criteria list to 20 or less and resubmit the request.

13. SELECTION LIST IS EMPTY
Occurs when the user has attempted to spawn a retrieval and no selection criteria was entered

Corrective Action: Enter the criteria required for the retrieval and resubmit the request.

14. FIRST PICK A SELECTION LIST ITEM TO BE REMOVED
Occurs when the user has attempted to remove an item from the selection list before selecting an item.

Corrective Action: Resubmit selection(s) from criteria screen.

15. INVALID DATA FOR THIS FIELD, PLEASE RE-ENTER
Occurs when the user has entered data that is not valid for the field it was entered into.

Corrective Action: Ensure data entered is valid data then resubmit the request.

16. ENTER AT LEAST ONE [*RETRIEVAL TYPE*]
Occurs when the user is not specified a retrieval type.

Corrective Action: Resubmit the request ensuring that at least one retrieval type has been selected.

17. PLEASE CHECK GEOLOC RANGE
Occurs when a constraint error has occurred when the user entered a range of GEOLOCs.

Corrective Action: Resubmit the request.

18. PLEASE CHECK MIN_RUNWAY_LENGTH RANGE
Occurs when a constraint error is encountered when a minimum runway length range is entered.

Corrective Action: Check values and try again.

19. PLEASE CHECK MAX_RUNWAY_LENGTH RANGE
Occurs when a constraint error is encountered when a maximum runway length range is entered.

Corrective Action: Check values and try again.

20. PLEASE CHECK MIN_RUNWAY_WIDTH RANGE
Occurs when a constraint error is encountered when a minimum runway width range is entered.

Corrective Action: Check values and try again.

21. PLEASE CHECK MAX_RUNWAY_WIDTH RANGE
Occurs when a constraint error is encountered when a maximum runway width range is entered.

Corrective Action: Check values and try again.

22. PLEASE CHECK MIN_LOAD_CLASS RANGE
Occurs when a constraint error is encountered when a minimum Load Class range is entered.

Corrective Action: Check values and try again.

23. PLEASE CHECK MAX_LOAD_CLASS RANGE
Occurs when a constraint error is encountered when a maximum Load Class range is entered.

Corrective Action: Check values and try again.

24. PLEASE CHECK MIN_TAXIWAY_WIDTH RANGE
Occurs when a constraint error is encountered when a minimum taxiway width range is entered.

Corrective Action: Check values and try again.

25. PLEASE CHECK MAX_TAXIWAY_WIDTH RANGE
Occurs when a constraint error is encountered when a maximum taxiway width range is entered.

Corrective Action: Check values and try again.